MOTHERS' MOBILITY AFTER SEPARATION: DO GRANDMOTHERS MATTER?

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Abstract

Starting from a life course perspective this study aims to gain more insight in mobility patterns of recently separated mothers, focusing especially on moves to the location of their own mother: the maternal grandmother. Separated mothers may benefit from practical and emotional support of their mother. Also, the grandparents' home can be a (temporary) place to stay shortly after divorce. Data come from the Social Statistical Database of Statistics Netherlands. This unique dataset combines longitudinal data from a vast number of administrative registers. It covers the complete Dutch population making it exceptionally well suited for life course research, including spatial patterns. We study mobility of all mothers with minor children for two years, starting from 2008 up until 2010. Our study includes 600 thousand mothers of which about 9 thousand (1.5%) experienced a separation in 2008. Separated mothers moved to the grandmother's municipality selectively more often than non-separated mothers, which seems to be partially motivated by the need for child care. Separated mothers also coresided with the grandmother more than non-separated. Most of the coresiders had a vulnerable socio-economic position. Although coresidence was often temporary, it appears to have a prolonged impact on the mothers' location choice since mothers frequently stayed in the grandmother's municipality after moving out of the parental home. Finally, some mothers seemed to use the parental home as a stepping stone and moved on to cohabit with a new partner.

INTRODUCTION

Mobility related to life events has been extensively studied both in the US and Europe, including the Netherlands (Rossi 1955; Fischer & Malmberg, 2001; Feijten and Van Ham, 2007; De Groot *et al*, 2011). The literature has covered the important role that family and in particular parents have over the life course in providing support and care (Pebley and Rudkin, 1999; Vandell *et al*, 2003; Hank and Buber, 2009; Ferguson *et al*., 2008; Knijn and Liefbroer, 2006). Especially grandmothers are active in giving practical support to their children and grandchildren, in accordance with the notion of 'women as kinkeepers' (Hank and Buber, 2009; Knijn and Liefbroer, 2006; Rossi and Rossi, 1990). In line with this, studies in the Netherlands have shown that parent's place of residence is relevant for spatial

mobility decisions in adult children after divorce (Michielin *et al*. 2008; Smits 2010; Smits *et al*. 2010; Mulder *et al*. 2011; Mulder and Wagner 2012).

In this study we address two main questions. First, we examine the role of the grandmother's location for spatial mobility patterns of recently separated mothers. Second, we aim to explain how support needs, indicated by life course characteristics of the separated mother (socio-economic position, family size, age of children), shape these mobility patterns. Earlier studies focused on general patterns of support needs in mobility behaviour of family members towards each other. This study aims to add to existing knowledge by zooming in on separated mothers and their intergenerational links with children and their own mother, as well as to a new partner. Building on earlier research, we additionally examine coresidence (moving in with the grandmother) and moves close to the grandmother simultaneously, and cover separations of both married and cohabiting unions.

The data for our study come from a unique combination of longitudinal register data in the Netherlands, the Social Statistics Database (SSD; Statistics Netherlands). The individual level data cover the full population residing in the Netherlands and thus allow studying all mothers with minor children who separated (either from a married or an unmarried union). Since the data cover life course and geographical information, they are exceptionally well suited for the purpose of our study.

THEORETICAL BACKGROUND

Separation may have both short and long term negative consequences for ex-partners (Amato and Keith, 1991; Joung *et al*. 1997; Murphy *et al*. 1997; Metsä-Simola and Martikainen, 2013) and children (Amato, 2000; Fischer, 2004; Van Gaalen and Stoeldraijer, 2012). The severity of these consequences of separation greatly varies between individuals and circumstances. Effects are mediated by other characteristics associated with divorce, such as loss of income and resources (Garvin *et al*., 1993; Fischer, 2004; Van Gaalen and Stoeldraijer 2012) and having to move (reviewed in Amato, 2000). The life courses of separated mothers cannot be examined in isolation; they are linked to that of others (Elder, 1994). The consequences of divorce for parents and children depend

among others on conflicts between ex-partners, number of children in the household, support from the social network and re-partnering (Fischer, 2004; Amato, 2000).

Within the social network, grandparents play an important role. They help parents with caring for the grandchildren, as shown in studies in the United States (Pebley and Rudkin, 1999; Vandell *et al*., 2003), Europe (Hank and Buber, 2009; Ferguson *et al*., 2008) and the Netherlands (Knijn and Liefbroer, 2006). After a separation, intergenerational ties might even become more important due to the increased practical and emotional support needs of single mothers. Indeed, grandparents' support increases when their children are in difficulty. They are more likely to help when their adult child is a single parent (Jappens & Van Bavel, 2012, Hank and Buber, 2009) or struggles with financial problems (Fergusson *et al.,* 2008) and they facilitate mother's employment, especially among those with low earning potential (Gray, 2005). Support by grandparents may not only be beneficial for the parent, but also for the grandchildren. For example, grandparents have been shown to compensate for the lack of parental resources in children's school success, (Jaeger, 2012). Grandmothers offer more support than grandfathers (Hank and Buber, 2009; Knijn and Liefbroer, 2006) and maternal grandmothers are more active caregivers than paternal grandmothers (Hank and Buber, 2009).

Our first research question focuses on the role of the maternal grandmother's location for mother's post-separation mobility. A relationship breakup means that at least one of the partners will have to move. Relatives living close by eases contact and support exchange between family members (Smith, 1998; Joseph and Hallman, 1998; Mulder en Van der Meer, 2009; Hank, 2007). Hence, it may be advantageous for mothers to move near her parents after separation. Previous studies in the Netherlands indeed found that divorced adult children more often move in the direction of their parents than married children, especially just after experiencing a divorce (Michielin *et al*., 2008, Smits, 2010). Similarly, parents of young children more often moved close to their own parents rather than settling elsewhere (Smits, 2010). In general, moves closer to the family seem to be motivated by (support) needs, where it is primarily the person in need who is moving (Smits, 2010). Therefore, we expect that s*eparated mothers overall move more often than non-separated mothers (H1 a) and that separated mothers are more likely to move to the municipality of the grandmother compared to non-separated mothers who move (H1 b).*

Earlier studies show that adult children sometimes (temporarily) move back in with parents during times of transition or difficulty (Da Vanzo and Goldscheider, 1990; Smits, Van Gaalen & Mulder 2010; Dykstra *et al*., 2013). After a separation, it is often difficult to find independent housing at short notice, especially for those with lower incomes (Gram-Hansen and Bech-Danielsen, 2008). In this respect coresiding with the parents for a limited period of time may prove a solution. Indeed, divorced and separated adults are more likely to move to coreside with their parents than non-separated (Da Vanzo and Goldscheider, 1990; Steenhof & Harmsen, 2002; Gram-Hansen and Bech-Danielsen, 2008; Smits *et al*. 2010). Similarly, we hypothesise that *recently separated mothers move more often to the grandmother's home compared to non-separated mothers who move (H2).*

Our second research question focuses on how mothers' support needs are shaped by characteristics of other lives linked to hers. One key aspect is the age of her children. The daily support needs of children are age graded: young children need the most intensive daily care. Care of school-aged children is less time consuming since school takes over a significant part of the daily supervision, and children become more self-reliant as they grow older. Work and family reconciliation becomes increasingly easier as children age. Furthermore mothers' support needs may depend on the number of children: a larger family means a larger investment in daily care. We therefore hypothesise that s*eparated mothers with younger children, especially preschoolers (H3 a), and mothers with more children (H3 b) are more likely to move to the municipality of the grandmother than those whose children are school aged and have fewer children.*

The probability of coresidence may be influenced by support needs too, especially by the socio-economic position of the mother. Generally, coresidence is more common among adult children without employment and disadvantaged households (Grundy, 2000; Choi, 2003; Hank, 2007; Smits *et al*., 2010). This association may be even stronger in case of a separation. A low socio-economic position hinders quick access to higher quality independent housing, making the mother more dependent on cheap (social) housing with often long waiting lists. Temporarily moving in with family or friends might be a consequence. We therefore predict that *separated mothers with an unfavourable economic position, i.e. with low incomes (H4 a) and unemployed (H4 b) will more often move in with the grandmother than those who are well off.*

In line with other life course research on mobility (De Jong and Roempke Graefe, 2008; Geist and McManus, 2008), this study pays attention not only on causes but also to consequences of mobility. Separated mothers who coreside may try to find more permanent housing once the dust has settled. During coresidence however they might have acquired local social capital (Da Vanzo 1981; Mulder and Wagner, 2012) in the grandmother's area, especially if they have found a job and the children go to school. We expect that mothers will then opt to stay in the town of the grandmother allowing them to further benefit from this location-specific social capital. This leads to the hypothesis that *those mothers who coresided for a period of time will more often continue to live in the municipality of the grandmother than separated mothers who never coresided (H5).*

Our last hypothesis concerns the influence of a new romantic relationship. Cohabitation with a new partner may mitigate negative effects of divorce for adults by offering support and reducing loneliness (Amato, 2000) and is associated with better housing conditions (Feijten and Van Ham, 2010). Having a new partner may also result in sharing the workload (employment, housework and childcare). Therefore, we expect that mothers who cohabit with a new partner after separation need less support from the grandmother. Their decision to move as well as the destination of their move will be influenced more by their new partner: *Separated mothers cohabiting with a new partner will have moved less often to the municipality of the grandmother (H6).*

The Dutch context: family relations, care for children and union dissolution

The Netherlands is a small and densely populated country. Distances between family members are relatively small: 300 km at max. The average distance between adult children and their parents is 30 km (Mulder and Kalmijn, 2006) and about half of parents live within five kilometres of their children (Van der Pers and Mulder, 2012). Highest levels of support are found when parents and children live close and decrease with increasing distance (Knijn and Liefbroer, 2006; Mulder and Van der Meer, 2009). Contact and support between adults and their parents is relatively high in the Netherlands compared to other European countries (Hank and Buber, 2009). About 75% of Dutch parents have weekly contact with at least one of their adult non-coresident children (Kalmijn and Dykstra, 2006), and 50% of parents provide some type of support to them (Knijn and Liefbroer, 2006). The frequency

of contact between adult children and their parents even increases when there are grandchildren (Kalmijn and Dykstra, 2006). The most common types of grandparent support include financial support, help with household chores and odd jobs, and childcare (Knijn en Liefbroer, 2006; Geurts *et al*., 2012).

Union formation in the Netherlands is nowadays characterised by high levels of unmarried cohabitation which has become a socially accepted union type for stable, long-lasting relationships. There are standard legal arrangements available that unmarried couples can use to arrange their (financial) rights and obligations, legal paternity and shared child custody (Poortman and Mills, 2012; Schrama 2008). Cohabiters are a diverse group including couples for whom cohabitation is a temporary situation (before entering marriage) as well as couples who have no intention to marry (Poortman and Mills, 2012). Having children out of wedlock is quite common in the Netherlands. In 2008, 41% of children were born from unmarried mothers, including both single mothers and those in an unmarried union (Statistics Netherlands, Statline database).

Although many childless couples have a relatively equal division of tasks (both in terms of paid and unpaid work), this changes drastically when children are born. In 2011 45% of the first-time mothers either stopped working or reduced their paid working hours substantially (Cloïn and Bierings, 2012). Mothers spend more time taking care of children than fathers and only 30% of working households with primary school children uses formal childcare, usually 2-3 days a week (in 2009, Cloïn and Souren, 2011; Cloïn and Bierings, 2012). As a result, mothers of minor children are often not economically independent (60% of mothers compared to 90% of fathers in 2011; Mars *et al*., 2012) making them more vulnerable in case of a separation. This is reflected by the reported larger negative economic consequences of divorce and separation for women than men (Manting and Bouman, 2006).After divorce, the majority of children lives with their mother. In 2008, 16% of the children had dual residency, living alternately with the mother and the father, and a small minority (less than 5%) lived with the father (Spruijt and Duindam, 2009).

DATA AND METHODS

Dataset and study population

To study patterns of mobility after separation we use the Social Statistical Database (SSD) of Statistics Netherlands (Bakker, 2002). The SSD combines a vast number of administrative registers, among which the population register and tax registers, covering the complete Dutch population. Because the SSD is longitudinal and contains information on location, distances and mobility, these data are exceptionally well suited for life course and socio- geographical research.

The study focuses on *de facto* separations of both married and cohabiting mothers between 1/1/2008 and 1/1/2009, and their moves until 31/12/2010. The latter year covers the most recent information available at the time of study. The majority of moves after a separation take place within the first couple of months. The frequency of moving then gradually declines over time, and mobility of separated mothers was very low in the last six months of 2010. We take an ample time window since we are interested in broader mobility patterns after separation, not just the first move. A quarter of all those who separated, moved at least twice within these two to three years after separation. Married and unmarried cohabitation and separation were defined using both partners' addresses. We do not measure *de jure* divorces as we include both married and nonmarried cohabiting mothers and because the timing of *de jure* divorce is not suited to specifically capture the moves that initiated the physical separation. [1]

Our starting point were mothers with minor children whose family was intact at 1/1/2008 and whose own mother was alive. Mothers who already lived in the municipality of the grandmother at 1/1/2008 –around half of all mothers- were excluded from the analyses. Additionally, we excluded a small number of mothers who themselves or whose partners had emigrated or passed away in 2008. Lastly, a small number (13%) of separated mothers whose children either were registered at the father's address or lived elsewhere (e.g. independently) were excluded. Hence, our sample includes

[1] We could not identify mothers who –for practical or other reasons- continued to live at the same address as their ex-partner after the relationship had ended at any point in 2008. Hence, this group of mothers, which is expected to be small, was included in the group of non-separated women resulting in a potential limited underestimation of separation.

both mothers who were the main caretakers as well as mothers who share childcare with the father but whose children were registered at her address. In around 16% of all divorces children have dual residence, living alternately with mother and father (Spruijt and Duindam, 2009). Some of these children are registered at the mother's address and some at the father's, since only one official address is allowed in the Dutch population register. Our study only covers those cases where children are registered with the mother. Our research population thus consisted of 579,500 non-separated mothers and 8,800 separated mothers.

Dependent and independent variables

Mobility was measured from the moment of separation in 2008. The move leading to the separation was included since it is the most relevant one for studying temporary living arrangements such as coresidence. The observation period ended at 31/12/2010. creating a time window of two to three years depending on the time of the separation in 2008. For non-separated mothers, we used 1/1/2008 as the starting point for observing moves, creating a time window of three years. Although moves of non-separated mothers are thus overestimated because of the longer observation window, this does not affect our main research questions.

Our dependent variable '*mobility pattern*' consists of seven categories that cover different patterns of moves observed after separation. We distinguish between:

1. "moved to grandmother's municipality": moved, and lived in grandmother's municipality at 31/12/2010.

2. "long-term coresidence": moved to and stayed in coresidence until 31/12/2010.

3. "short coresidence, stayed in grandmother's municipality": moved to coresidence, had moved out again, and stayed in grandmother's municipality until 31/12/2010.

4."short coresidence, left grandmother's municipality": moved to coresidence, had moved out again and lived in another municipality at 31/12/2010.

5. "moved within municipality": moved and lived in the same municipality as before the separation at 31/12/2010.

6. "moved between municipalities": moved, and lived in another municipality at 31/12/2010.

7. “non-movers”: did not move until 31/12/2010.

The analyses will first provide bivariate descriptive findings. Subsequently we perform a set of multinomial logistic regression analyses to test our hypotheses.

The main independent variables were defined based on our theoretical assumptions. The *age of the oldest minor child* covers three categories: preschool (aged 0 to 4), primary school (aged 4 to 12) and teenager (aged 12 to 18); *family size:* one child in the household, two children, and three or more children; yearly household *income* in deciles, which included the income of both the father and the mother;*employment* status: working in a paid job yes or no; presence of a *new partner* in the household. All independent variables were measured before separation at 1/1/2008, except presence of a new partner, which was measured at 31/12/2010.

Next to income and employment, educational level is another important indicator of the socio-economic position of the mother, as has been found in numerous studies. However, in our data (based on the population registers) the educational level could only be determined for 46% our study group. Given the large number of missings and the fact that the subgroup for whom we know the educational level is highly selective -among other things, young mothers are strongly overrepresented-, we have not included this indicator in the remainder of this study. Nevertheless, we performed several exploratory logistic regressions (for more details see Results) including educational level (both weighted and unweighted). These analyses suggest that our findings are quite robust: none of the coefficient changed substantially when we included educational level in any of the exploratory models.

In addition to our key variables of interest, four control variables were included in our analyses based on theoretical considerations. *Mother’s age*: Young mothers get more support from grandparents than older mothers (e.g. Vandell *et al*., 2003; Fergusson *et al*., 2008; Knijn en Liefbroer, 2006) and younger persons are geographically more mobile (Feijten and Visser, 2005; Etzo, 2008). In our research population, mother’s age was correlated to, among other things, her children’s age, family size, income, and the probability that her own parents were alive. However, none of these correlations resulted in problems of multicollinearity (see below).

Marital status indicates whether the mother was married or cohabiting. Cohabitation was further distinguished into those who 'never married' and those who were previously 'divorced or widowed'. This last category included previous divorces or widowhood as well as mothers who were already formally divorced but were still living together with their ex-partner at 1/1/2008.

Relationship status of the grandmother indicates whether the grandmother lives with the maternal grandfather or not (further distinguished into separated and widowed grandmothers). Studies show that divorced parents have less contact and support their adult children less than married parents (Kalmijn and Dykstra, 2006; Knijn and Liefbroer 2006).

Initial *distance* between the municipalities of the mother and the grandmother measured in kilometres. Distance between family members is important for the purpose of our study and has been shown to be related to socio-economic status, household and marital status in previous studies (Mulder and Kalmijn, 2006; Michielin and Mulder, 2007).

Lastly, all models were corrected for *migrant status* and *degree of urbanisation* of the women's location before separation (cf. e.g. Smits, 2010; Smits *et al*, 2010). Correlations between each of the independent variables never exceeded 0.5 and no problems of multicollinearity were found.

-Table 1 about here-

RESULTS

Descriptive findings: moves of non-separated and separated mothers

Table 2 shows that separated mothers moved more often than non-separated mothers (hypotheses H1a). From the moment of separation in 2008 up to 31/12/2010 (and including moves that marked the separation), two third of separated mothers had moved at least once in those two to three years. In contrast, only around one in ten non-separated mothers had moved in the three years after 1/1/2008. The difference in mobility between separated and non-separated mothers is clear, even though it is a conservative estimate: mobility of non-separated mothers is somewhat overestimated since they have a larger time window for moving than the separated mothers.

-Table 2 about here-

Among separated mothers, 13% of all movers moved to the grandmother's town (hypothesis H1b). On top of that, another 5% stayed in the grandmother's town in 2010. after having spent some time in coresidence. Thus, a total of 18% of all separated mothers who had moved still lived in the grandmother's municipality in 2010. Among non-separated mothers, 12% of all movers among this group also ended up in the grandmother's municipality in 2010. We thus find that separated mothers who move are more likely to move to the grandmothers municipality for a longer period than is the case for non-separated mothers that are moving in the observed time period.

A total of 12% of separated mothers who moved spent a period of time coresiding with the grandmother after the separation (hypothesis H2). Among non-separated mothers, only 3% of the movers spent some time in coresidence between 2008 and 2010. Coresidence after separation was often followed by another move within the next years. After nine months, 50% of coresiding mothers had moved out again, and at the end of 2010. this was the case for 80% of those who coresided for a period. This result is in line with the idea that coresidence is often intended as a temporary solution to a housing problem. This temporary solution may have a prolonged impact on location choice and settlement however: of all separated mothers who coresided with the grandmother at any point after separation, almost half stayed in the grandmother's municipality after moving out of the grandmothers house.

Given the importance of distance in location choice and help from mothers we explored the initial distance to the grandmother before separation (not in Table). The findings show a clear relation: Mothers who moved to the grandmothers' municipality initially already lived closer to her than average. At the same time mothers who moved to another municipality initially lived at a greater distance of the grandmother than mothers who moved within the municipality. These patterns were found to be similar for non-separated mothers and separated mothers.

Multivariate results

Multivariate logistic regressions (Table 3) showed that the moving behaviour of separated mothers differed significantly from that of non-separated. For testing hypothesis H1a (difference in moves between separated and non-separated mothers) we take non-movers as the reference category. For hypothesis H1 b and H2 (both referring to destination of the move of separated mothers) between-municipality movers were used as reference category.

In line with our hypotheses, we find that separated mothers moved more often (H1a), andthey moved more often to the grandmother's municipality (H1b) as well as to her home (H2) compared to moving elsewhere (between municipalities).

- Table 3 about here-

We expected mothers of younger children to be more inclined to move close to the grandmother (H3 a). Compared to other between-municipality movers, mothers of preschool children more often moved to the grandmother's municipality than mothers of primary school children aged 4-12, but not more often than mothers of teenagers (Table 4). Short-term and long-term coresiding mothers did not differ significantly from other between-municipality movers with respect to their children's age. In general, mobility patterns of mothers with preschool children differed from those of mothers with older children: Mothers with preschool children moved more often between municipalities and less often within the municipality.

-Table 4 about here-

Our hypothesis that the probability of moving close to the grandmother is positively related to *family size* (H3b) was not confirmed. Mothers who had one child moved less often within their municipality and more often between municipalities. Movers to the grandmother's municipality and short-term coresiders did not differ from other between-municipality movers with respect to the

number of children they had. Long-term coresiders, however, more often had only one child than other between-municipality movers.

In accordance with H4a, long-term coresiders and especially short-term coresiders who stayed in the grandmother's municipality more often belonged to low *income groups* compared to other between-municipality movers. Short-term coresiders who left the grandmother's municipality seemed to have a more advantaged socio-economic position than the other coresiders. Compared to other between-municipality movers, only one lower income group was overrepresented and this was the third decile in the income distribution rather than the lowest. In contrast to expectations (H4b), *employment* of the mother was not significantly associated with the probability of coresidence. Bivariate analyses on educational level and exploratory regression models (results not shown) confirmed - that mothers who coreside seem to be a vulnerable group. On average, coresiders were lower educated than other separated mothers, and educational levels of long-term coresiders were the lowest. Mothers who moved to the grandmother's municipality however were not an economically vulnerable group; their income and employment levels were comparable to that of other between-municipality movers. Movers within the municipality did not differ from between-municipality movers with respect to pre-separation household income, but they were more often employed. Jobs may often be locally based, and represent location-specific capital which could inhibit moving over long distances.

In line with H5, separated mothers who spent time in coresidence were more likely to have their residence in the grandmother's municipality at the end of 2010 than mothers who had not spent time in coresidence ($Chi^2 = 697.2$; df=2; $p<0.001$). At the same time mothers who cohabited with a *new partner* at the end of 2010 more often moved between municipalities compared to moving within (Table 4). Conforming our hypothesis (H6), this group of separated women moved less often to the municipality of the grandmother, less often to long-term coresidence, and they less often coresided followed by relocation in the grandmother's municipality. Given these findings we did additional exploratory analyses on the links between coresidence and having a new partner. Surprisingly however, mothers who co-resided with the grandmother at some point and then moved out of that municipality again had a high probability of living with a new partner at the end of 2010: 42% lived

with a new partner as opposed to 23% of all separated mothers. This was comparable to the 38% between-municipality movers who cohabited with a new partner at the end of 2010. and it was significantly higher than all other categories of the dependent when coefficients were tested against each other (results not shown).

Control variables

Our control variables overall confirm findings from previous studies. We found that younger mothers more often coresided. This pattern was particularly clear for those younger than 35 years of age. Movers to the grandmother's municipality were also younger than others, although differences across age groups did not always reach significance. Within-municipality movers differed only slightly from between-municipality movers. Whether the mother was *married, cohabiting* or *divorced/widowed* had no significant influence on any of her mobility patterns after separation. The *relationship status of the grandmother* influenced the probability of coresidence, but not of other moves. All three types of coresidence were less likely when the grandmother was separated from the grandfather compared to when the grandparents lived together. Widowhood of the grandmother had a less clear effect: it was negatively related to short-term coresidence followed by moves within the grandmother's municipality, but not to other types of coresidence. Lastly, initial *distance* between the mother and the grandmother was a predictor of moving close: mothers who lived nearby more often moved to the grandmother's municipality, but were not more likely than others to move to coresidence. On average, movers within the municipality lived at closer distance to the grandmother than between-municipality movers.

CONCLUSION AND DISCUSSION

By taking a life course perspective, this study aimed to shed more light on mobility patterns of recently separated mothers in the Netherlands, with a special focus on the location of the grandmother. Our results add to existing knowledge in three ways. First, we focused specifically on separated mothers in their moving-close-to-family behavior. Second, initial as well as subsequent moves were studied, covering both moving close to and moving in with the grandmother. Such an

approach gives more insight in interdependencies between these two types of moves and on causes and consequences of mobility. Lastly, we used a life course approach to examine how 'linked lives' influence the location choice of separated mothers.

Using unique register data covering the entire population of the Netherlands we examined whether separated mothers' mobility behaviour is influenced by her own support needs and by the needs and interests of close others. This general idea was supported; location of the grandmother, age of children, and a potential new partner were related to separated mothers' moving patterns. Below, we discuss these results more fully, considering life course and linked lives perspectives, and offer some direction for future research.

Does the grandmother matter?

Separated mothers were more likely to move to the grandmother's municipality than non-separated, and they were also more likely to move in with the grandmother. Location of the grandmother -or grandparents- matters for mobility decisions of families with children (Michielin *et al*. 2008; Smits 2010) and our result shows that their location matters even more after separation. These mobility patterns were expected to be broadly associated with intergenerational support needs, as indicated by different life course characteristics.

Moving close. Support of the parents? Or the lure of the home town?

Mothers with pre-school aged children were more likely to move to the grandmother's municipality than mothers of primary school children, which may reflect their greater need for help with child care . However, this effect was not a linear age effect as we expected: mothers of teenagers were as likely to move near the grandmother as mothers of pre-schoolers, pointing to a broader intergenerational support pattern. It may well be that mothers are more concerned about their teenage children's well being and adaptation after separation, given the absence of institutionalized support and supervision (day care facilities) that is only available for pre-school and school aged children. Furthermore, in contrast to our expectations, mothers with more children did not move more often to the grandmother's municipality compared to mothers with one or two children. We cautiously conclude

that the need for help with childcare plays a modest role in the decision to move close to the grandmother, but that this is unlikely to be the whole story. Probably, other motivations play a role as well. First, other forms of support by the grandmother and grandfather, such as emotional support and advice, may be even more important than practical help with child care. The need for such emotional support probably does not diminish when children get older, explaining the absence of a clear age graded effect. Second, the motivation to move to the grandmother's town may partly be related to the location itself. In many cases this town is also the place where the mother spent her childhood and a part of the old social network, friends and/or siblings may still reside there (Wall and Von Reichert, 2013). The latter might especially be true for young women, explaining the finding that younger mothers more often moved to the grandmother's municipality than older mothers.

Moving in. Causes and consequences of coresidence

Providing temporary housing to adult children is one form of intergenerational support. Adult children may coreside with their parents for a variety of reasons, as a result of different life course trajectories (Dykstra *et al*. 2013). Many separated mothers who coreside seem to do so because they have limited finances and are unable to quickly buy or rent a home of their own after separation. This result is in line with other findings showing that economically disadvantaged adults more often live with their parents (Grundy, 2000; Hank, 2007; Smits *et al*., 2010; Dykstra *et al*. 2013). However, our results also show that coresidence might not always be driven by mere economic necessity. The dynamics around coresidence are more complex, not only in their causes, but also in their consequences.

Three mobility patterns around coresidence can be distinguished. First, a minority of one in five mothers still lived in coresidence at the end of the observation period. These long-term coresiding mothers generally had a weak socio-economic position. Second, almost half of coresiders relocated within the grandmother's municipality after moving out. The fact that many coresiding mothers relocate in the same municipality after moving out of the parental home, suggests that the family has acquired location-specific capital during the time spent in coresidence. Such local capital –for example the social network of children going to school in the area- provides strong ties that bind the family to the place (Da Vanzo, 1981; Mulder and Wagner, 2012). Thus, an initial practical housing

decision meant as a short term solution may determine the family's spatial location for a long time after.

Finally, one third of all coresiders left the grandmother's municipality after moving out of the grandmother's home. This group is not economically vulnerable; their socio-economic position is comparable to that of other separated mothers. Those coresiding mothers that do move out of the grandmother's municipality differ from the other coresiders. For them, moving in with the grandmother does not seem to be motivated by a lack of financial options to buy or rent a home on short notice. Surprisingly however, a striking 42% live with a new partner at the end of 2010. This was comparable to the 38% between-municipality movers who cohabited with a new partner at the end of 2010 and significantly higher than all other categories of the dependent when coefficients were tested against each other in an exploratory analysis (results not shown). The average of separated mothers who live with a new partner at the end of 2010 is only 23%. These coresiding mothers may have used the grandmother's home as a temporary retreat while making arrangements to live with their new partner. Many of these relationships may already have existed at the time of the separation, but this cannot be established with the register data. To gain more insight in these relationship transitions, survey data are needed.

In contrast to our expectations, employment was not significantly associated with the probability of moving to coresidence. However, coresiding mothers were much younger on average than other separated mothers: their median age was 29. The median age of other separated mothers ranged from 34 (movers to the grandmother's municipality) to 39 (non-movers). Youth, young motherhood and economic vulnerability are all intertwined. Women with a low education become mothers at a younger age (Wobma and Van Huis, 2012) and adding to that, motherhood disrupts the labour market trajectory of young women more severely than that of older women. Next to these issues, incomes of young people are lower simply because of their age and their shorter careers. Hence, the fact that coresiding mothers are young adds to their economic vulnerability.

The role of the social network of mothers and children

This study provides evidence that the location choice of the mother is not only influenced by the grandmother but also by other linked lives. Especially, children have a large influence. The children's social networks tie the family to a location and may put a severe restraint on the mother's mobility. This is reflected in the highly significant pattern that mothers with school aged children and mothers with larger families are less likely to make moves over longer distance (across the town borders) than mothers with preschool children and mothers with only one child. The children's age and the family size can be used as indicators for the support needs of the mother but equally, the age of children and the size of the family indicate the importance of local social networks and activities. Such ties appeared to influence mother's mobility even more than her support needs: We found a clear positive effect of age and number of children on the probability of moving over shorter as opposed to longer distances.

As discussed above, a new partner exerts a large influence on location choice (see also Feijten and van Ham, 2010). Cohabitation with a new partner is associated with a lower probability of moving within the municipality and of moving to the grandmother's municipality, and a higher probability of moving across town borders. This probably reflects the pull factor of the new partner's location preference. The parental home sometimes seems to function as a temporary refuge when mothers plan to cohabit with a new partner after separation.

The father is a very important part of the children's network, and his location likely has an important influence on the mother's mobility. In many cases, the father might still reside in the old municipality and thus form a strong tie to that place. In the case of dual residence, i.e. children live alternately with the father and the mother, short distances between the father's and mother's homes is even a prerequisite to successfully maintain this arrangement (Bakker and Mulder, 2013). Investigating the role of the father and his location was beyond the scope of this study. For future work, the population register data offer promising opportunities to elaborate further on partner dynamics and mobility after separation, especially in combination with survey data that provide information about day to day care and living arrangements.

Limitations and concluding remarks

The current study represents a useful contribution to our understanding of mobility patterns after separation. Since it is based on register data, the study does not suffer from selective nonresponse and problems of insufficient data. However, register data also have limitations (Mulder *et al*. 2012) as they may contain errors and sometimes suffer from administrative delay. Moreover, since the data are collected for administrative purposes, they do not always represent reality as experienced by people themselves. Therefore, they are not suited to study some of the more complex aspects of social ties, such as the timing and evolvement of romantic relationships, parenting dynamics after divorce including dual residency of children. Lastly, registers do not measure subjective information such as motivations, preferences and attitudes. Examining whether moving behaviour is (partly) motivated by intangible benefits, such as emotional support, requires survey data or qualitative in-depth interviews that give insight in the psychology of human choices.

Another interesting question, beyond the scope of this study, is whether -in addition to the earlier described benefits for the mother- the children benefit from moves near their grandmother too g. Grandmother care for grandchildren may have been crucial in human evolutionary history (Hrdy,2005). Accordingly, the presence of the (maternal) grandmother has been found to have a positive effect on infant survival in many historic and contemporary societies (Sear and Mace, 2008). Grandparental investments may become even more important after parental separation. It is well known that negative consequences of parental divorce for children reach well into adulthood (Amato, 2000). One of the explanations is that resources of the father, such as his income and cultural capital, are partially lost to the child (Fischer, 2004). It would be interesting for future studies to further investigate whether grandparental resources (care, involvement, investments) could compensate for that, and buffer the negative effects of divorce for their grandchildren.

Overall, we can conclude that grandmothers matter for mother's spatial decisions after separation. In times of rising separation- and divorce rates, and the growing need for informal care in many welfare countries, the importance of intergenerational support by family is ever increasing. Studying how intergenerational support influences mobility decisions of the ones in need, and how this benefits the lives across the generations, should be a central issue on the social research agenda.

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Table 1. Distribution of the independent variables (% per category, by union status)

	Definition/categories	Not separated	Separated
Age of oldest minor child	Preschool (aged 0 to 4) (ref)	23	29
	Primary school (aged 4 to 12)	42	46
	Teenager (aged 12 to 18)	35	26
Family size	One child in the household	27	37
	Two children (ref)	51	46
	Three or more	23	18
Household income	Yearly income of the household in deciles	Median € 22,675	Median € 20,204
Employment of mother	Not employed (ref)	30	33
	Employed	70	67
New partner (2010)	No new partner (ref)	Not applicable	77
	New partner	Not applicable	23
Controls			
Mother's age	Age under 25	1	6
	Age 25-29	7	11
	Age 30-34	18	19
	Age 35-39 (ref)	28	28
	Age 40-44	25	21
	Age over 44	21	13
Marital status	Married (ref)	83	60
	Never married	16	29
	Divorced or widowed	2	11
Relationship Grandparents	Grandparents together (ref)	63	56
	Grandparents separated	10	19
	Grandfather deceased, emigrated or unknown	27	26
Initial distance mother-grandmother (km)	Average Euclidean distance in km between centroids of municipalities	42	40
Migrant status	Native Dutch (ref)	90	84
	Non-Western, first or second generation	4	7
	Western, first or second generation, excluding Native Dutch	6	8
Degree of urbanisation	Very strongly urban (ref)	12	15
	Strongly urban	27	29
	Moderately urban	22	22
	Rural	24	22
	Strongly rural	14	12
Total N		579,500	8,800

Note: All variables represent the situation at 1/1/2008 before the union dissolution, except the variable that indicated whether a new partner was present (at 31/12/2010). Throughout the study, frequencies are rounded to hundreds for reasons of privacy and data protection. Source: authors 'analyses SSD, Statistics Netherland

Table 2: Mobility patterns of mothers (percentage of the total number of movers)

	Non-separated	*Separated*
Moved to grandmother's municipality	11	13
Long-term coresidence	1	3
Short coresidence, stayed in grandmother's municipality	1	5
Short coresidence, left grandmother's municipality	1	4
Moved within municipality	56	50
Moved between municipalities	31	24
Total moved N (% of total)	61,400 *(11%)*	6,000 *(68%)*
Total N	579,500	8,800

Source: SSD, Statistics Netherlands (own calculations)

Table 3. Multinomial regression coefficients of mobility patterns of separated mothers compared to non-separated (reference group)

	B-coefficient Ref not moved	*B-coefficient Ref moved between municipalities*
Moved to grandmother's municipality	3.098***	0.358***
Long-term coresidence	3.703***	0.964***
Short-term coresidence, stayed in grandmother's municipality	4.785***	2.046***
Short-term coresidence, moved elsewhere	4.376***	1.637***
Moved within municipality	2.774***	0.035
Moved between municipalities	2.739***	

Nagelkerke pseudo R^2=0.124.; N=588,319. All models are corrected for age of oldest child, family size, income, employment, age, marital status, relationship of the grandparents, distance, migrant status, urban/rural environment. Source: SSD, Statistics Netherlands (own calculations). *** p<0.001

Tabel 4. Multinomial logistic regression of mobility patterns of separated mothers on life course characteristics. Reference category: moved between municipalities.

	Moved to grandmother's municipality		Long-term coresidence		Short coresidence, stayed in grandmother's municipality		Short coresidence, left grandmother's municipality		Moved within municipality	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
Preschool (aged 0 to 4) (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Primary school (aged 4 to 12)	**-0.259**	**0.037**	0.115	ns	-0.139	ns	0.028	ns	0.584	0.000
Teenager (aged 12 to 18)	-0.319	ns	-0.227	ns	-0.739	ns	-0.656	ns	0.538	0.000
One child in the household	0.043	ns	0.578	0.010	0.265	ns	0.174	ns	-0.202	0.015
Two children (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Three or more children	0.044	ns	-0.538	ns	-0.462	ns	-0.408	ns	-0.011	ns
10% lowest income	0.030	ns	1.101	ns	1,172	0.008	0.348	ns	-0.170	ns
10-20%	0.288	ns	1.403	0.017	1.302	0.004	0.750	ns	-0.112	ns
20-30%	-0.221	ns	1.340	0.019	1.124	0.011	0.272	ns	-0.196	ns
30-40%	0.207	ns	1.407	0.015	1.599	0.000	0.823	0.041	0.139	ns
40-50%	0.124	ns	1.108	ns	1.000	0.021	0.174	ns	0.004	ns
50-60%	0.149	ns	1.017	ns	1.239	0.004	0.741	ns	0.116	ns
60-70%	0.192	ns	0.790	ns	1.103	0.012	0.326	ns	0.061	ns
70-80%	0.184	ns	0.621	ns	0.440	ns	-0.387	ns	0.047	ns
80-90%	-0.029	ns	0.659	ns	0.883	ns	0.290	ns	0.294	ns
10% highest income (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Employed	0.018	ns	-0.242	ns	-0.082	ns	0.103	ns	0.269	0.000
Not employed (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
No new partner (ref)	0b		0b		0b		0b		0b	
New partner	-0.873	0.000	-2.813	0.000	-1.038	0.000	-0.110	ns	-0.715	0.000

(Table 4, continued)	Moved to grandmother's municipality		Long-term coresidence		Short coresidence, stayed in grandmother's municipality		Short coresidence, left grandmother's municipality		Moved within municipality	
Controls										
Age under 25	0.354	ns	1.952	0.000	1.254	0.000	1.697	0.000	0.077	ns
Age 25-29	0.494	0.001	1.236	0.000	0.832	0.000	1.184	0.000	-0.108	ns
Age 30-34	0.279	0.033	0.824	0.008	0.341	ns	0.578	0.013	-0.026	ns
Age 35-39 (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Age 40-44	-0.089	ns	0.619	ns	-0.971	0.007	0.112	ns	0.291	0.005
Age over 44	-0.508	0.023	-0.080	ns	-0.824	ns	-0.635	ns	0.075	ns
Married (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Never married	-0.096	ns	-0.051	ns	0.153	ns	0.227	ns	0.002	ns
Divorced or widowed	-0.182	ns	-0.607	ns	-0.167	ns	-0.057	ns	-0.070	ns
Grandparents together (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Grandparents separated	-0.262	0.027	-0.850	0.000	-0.868	0.000	-0.984	0.000	-0.049	ns
Grandfather deceased, emigrated or unknown	-0.102	ns	-0.329	ns	-0.574	0.002	-0.382	ns	0.049	ns
Initial distance mother-grandmother (km)	0.000	0.000	0.000	ns	0.000	ns	0.000	0.005	0.000	0.000
Native Dutch (ref)	-0.156	ns	-0.053	ns	-0.233	ns	0.140	ns	0.133	ns
Non-Western, first or second generation	0.361	ns	0.379	ns	-0.117	ns	0.142	ns	0.085	ns
Western, first or second generation, excluding Native Dutch	0[b]		0[b]		0[b]		0[b]		0[b]	
Very strongly urban (ref)	0[b]		0[b]		0[b]		0[b]		0[b]	
Strongly urban	0.197	ns	0.365	ns	0.087	ns	0.551	0.030	0.139	ns
Moderately urban	0.390	0.019	0.207	ns	0.162	ns	0.770	0.004	0.226	ns
Rural	0.424	0.009	0.021	ns	0.168	ns	0.455	ns	-0.102	ns
Strongly rural	0.310	ns	-0.188	ns	-0.124	ns	0.491	ns	-0.371	0.004
Intercept	-0.149	ns	-3.456	0.000	-2.050	0.000	-3.063	0.000	0.358	ns

Nagelkerke pseudo R^2=0.235, N=5,964. Source: SSD, Statistics Netherlands (own calculations).